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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/005,927	11/08/2001	Masahiro Yamamura	10873.842US01	7821
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Merchant & Gould P.C. P.O. Box 2903 Minneapolis, MN 55402-0903				
EXAMINER CLEVELAND, MICHAEL B				
ART UNIT		PAPER NUMBER		
1762				

DATE MAILED: 02/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/005,927

Applicant(s)

YAMAMURA ET AL.

Examiner

Michael Cleveland

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 November 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) 10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 020102. 6) ☒ Other: IDS 050102.

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-9, drawn to a method of coating, classified in class 427, subclass 64.
 - II. Claim 10, drawn to a display device, classified in class 313, subclass 479.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed may be made by another and materially different process such as by spin coating with the coating composition.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.
5. During a telephone conversation with Douglas Mueller on 8/28/2003 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-9. Affirmation of this election must be made by applicant in replying to this Office action. Claims 10 is withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.
6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 112

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7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 9 recites the limitation "the spray nozzle" and "the air spray device" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim. Antecedent basis could be provided by making claim 9 depend from claim 8 instead of claim 5.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi et al. (U.S. Patent 6,086,790, hereafter '790).

'790 teaches a method of treating a surface of a face panel used for an image display device (col. 1, lines 6-16), comprising formation of at least one layer of coating film on a panel by spraying (col. 18, lines 64-66) a coating material comprising microparticles and a mixture of solvents (col. 22, lines 9-50).

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'790 does not explicitly teach a particular embodiment which uses ethylene glycol, a propylene glycol ether, water, and an alcohol with 1-3 carbon atoms. However, it does teach that operative solvents include ethylene glycol (col. 22, lines 33-36), polyalkyleneglycol ethers (col. 22, lines 36-39) such as propylene glycol methyl ether (col. 21, lines 13-16), water (col. 23, lines 13-15) and methanol (an alcohol with 1 carbon atom) (col. 23, lines 23-25). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a combination of ethylene glycol, propylene glycol methyl ether, water, and methanol, as the particular solvent of '790 with a reasonable expectation of success because '790 teaches that they are operative solvents for applying the powders and that mixtures of solvents are operable for applying the powders.

Claim 2: Ethylene glycol (a polyhydric alcohol may be present in amount up to 30 wt. %) (col. 17, lines 46-47; col. 22, lines 30-32), propylene glycol methyl ether may be present in at 1-30 wt. % (col. 21, lines 13-20), and water may be present up to 20 wt. % (col. 13, lines 53-56). The subject matter as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a *prima facie* case of obviousness, see *In re Malagari*, 182 U.S.P.Q. 549. Furthermore, it has long been held that "differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical." (MPEP 2144.05.II.A.)

Claim 3: The powder may be present in 0.1-15 wt. % (col. 9, lines 55-60). The subject matter as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a *prima facie* case of obviousness, see *In re Malagari*, 182 U.S.P.Q. 549.

Claims 4-5: The powder is metal (i.e., conductive) powder of, for instance 0.05 microns (50 nm) (col. 6, lines 33-40).

12. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi '790 as applied to claim 1 above, and further in view of Sato et al. (U.S. Patent 5,270,072, hereafter '072).

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'790 teaches applying antireflective films of metal powders to CRTs as described above. It does not teach that the panel is heated to 50-90 °C during spraying. '072 teaches that the drying rate and adhesion are optimized in the spraying of antireflective coatings onto CRTs at temperature of 50-70 °C (col. 15, lines 19-39). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have heated the panel of '790 to 50-70 °C during spraying because '072 teaches that such panel temperatures offer an operative compromise of adhesion and drying speed.

13. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi '790 as applied to claim 1 above, and further in view of Kojima et al. (U.S. Patent 5,660,876, hereafter '876).

'790 teaches applying antireflective films of metal powders to CRTs as described above. It does not teach a spraying pressure of 0.2-0.6 MPa nor using compressed air to air spray the spray through a nozzle. However, the selection of something based on its known suitability for its intended use has been held to support a *prima facie* case of obviousness. *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945). See MPEP 2144.07. '876 teaches spraying powder-containing liquids onto CRTs using air nozzles (Fig. 5) operable by compressed air (col. 2, lines 49-51) at a spraying pressure of 3.5 kg/cm² (0.34 MPa) (col. 4, lines 52-59). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used compressed air to spray the dispersion of '790 because '876 teaches that compressed air nozzles are operative to supply powder dispersions to CRTs. Likewise, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a spraying pressure of 0.34 MPa because '790 teaches that such is an operative pressure.

14. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi '790 and Kojima '876 as applied to claim 7 above, and further in view of Koike et al. (U.S. Patent 4,734,615, hereafter '615).

'790 and '876 teaches applying antireflective films of metal powders to CRTs using a pressure such as 0.34 MPa as described above. They do not explicitly teach that the nozzle is 150-220 nm from the substrate. However, the selection of something based on its known suitability for its intended use has been held to support a *prima facie* case of obviousness.

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Sinclair & Carroll Co. v. Interchemical Corp., 325 U.S. 327, 65 USPQ 297 (1945). See MPEP 2144.07. '615 teaches a spraying distance of 20-30 cm for depositing powder suspensions onto CRTs (col. 4, lines 34-48). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a spraying distance of 20 cm (200 mm) because '615 teaches that such is an operative distance.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Cleveland whose telephone number is (571) 272-1418. The examiner can normally be reached on Tuesday-Friday and alternate Mon, 8-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on (703) 272-1415. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Michael Cleveland
Patent Examiner
January 29, 2004